

ABSTRACT OF THE DISCLOSURE

A device inserted between a grounded poly-phase external voltage source and a load providing low insertion loss for differential mode currents and high insertion loss for ground currents. The device receives voltages from the grounded poly-phase external voltage source over atone or more voltage lines. The voltages contain common mode voltages. A filter connected to each of the voltage lines reduces the ground current from the load. A summing block adds the voltages from each of the voltage lines to generate a total common mode voltage. A ground referenced controlled voltage source generates a cancellation voltage equal to the total common mode voltage in response to the generation of total common mode voltage. The total common mode voltage is injected into the filter and substantially reduces the common mode voltage on each voltage line thereby substantially reducing the ground currents associated with each common mode voltage on each voltage line.

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